structure and evolution of the universe roadmap

Last Word

This Roadmap for NASA's Structure and Evolution of the Universe (SEU) theme has identified and prioritized the science objectives in space astrophysics:

- 1. Find out what powered the Big Bang;
- 2. Observe how black holes manipulate space, time, and matter;
- 3. Identify the mysterious dark energy pulling the Universe apart;
- 4. Explore the cycles of matter and energy in the evolving Universe; and
- 5. Understand the development of structure in the Universe.

The prioritized Roadmap is in good accord with the recommendations of the National Academy of Sciences, including the *Astronomy and Astrophysics in the New Millennium* and *Connecting Quarks with the Cosmos* reports. Guided by the concerted efforts of the space astrophysics community, this Roadmap puts forward a single integrated program of five missions, technology, research, and education to address the highest priority objectives. This is the *Beyond Einstein* program.

Einstein sought, but never achieved, an understanding of how nature works at its deepest level. With *Beyond Einstein*, we seek that next level of understanding. Over the next decade, the *Beyond Einstein* missions will answer fundamental questions about the

origin of the Universe and the nature of space and time. In the far future the "vision missions" of this Roadmap will extend our minds even closer to the edges of space and time. These missions will follow matter to the very brink of black holes and detect "particles of time" left over from the beginning of the Universe. We will see beyond the vision of Einstein to the uttermost extremities of existence.

"The future belongs to those who believe in the beauty of their dreams" —Eleanor Roosevelt

